IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

1. (previously presented) A transgenic mouse comprising a disruption in its endogenous melusin gene, wherein said mouse lacks expression of endogenous melusin, and wherein said mouse, after being subjected to a hypertensive condition, develops at least a phenotype selected from the group consisting of impaired heart hypertrophy, heart dilation, and heart failure.

Claims 2-7 (canceled)

8. (currently amended) The transgenic mouse according to claim 1, wherein ~~characterized in that~~ said hypertensive condition is induced by surgical operation.

9. (currently amended) The transgenic mouse according to claim 8, wherein ~~characterized in that~~ said surgical operation consists of surgical constriction of the transverse aorta.

10. (currently amended) The transgenic mouse according to claim 1, wherein ~~characterized in that~~ said hypertensive condition is induced by pharmacological treatment.

11. (currently amended) The transgenic mouse according to claim 1, wherein ~~characterized in that~~ said hypertensive condition is induced by high sodium diet.

12. (previously presented) The transgenic mouse according to claim 1, wherein said mouse develops at least impaired heart hypertrophy.

13. (previously presented) The transgenic mouse according to claim 1, wherein said mouse develops at least heart dilation.

14. (previously presented) The transgenic mouse according to claim 1, wherein said mouse develops at least heart failure.

15. (previously presented) The transgenic mouse according to claim 10, wherein said pharmacological treatment is administration of hypertensive drugs.

Claim 16 (canceled)

17. (previously presented) The transgenic mouse according to claim 1, wherein said mouse belongs to the 129SV, C57Bl or 129SVxC57Bl strain.

18. (currently amended) A method of selecting a compound that is pharmacologically active in the prevention of heart failure, said method comprising:

i) administering compounds to the transgenic mouse according to claim 1,

ii) inducing a hypertensive condition in said mouse, and

iii) selecting a compound that is pharmacologically active in the prevention of heart failure.

19. (currently amended) A method of studying a heart pathology, said method comprising:

i) exposing the transgenic mouse according to claim 1 to hypertensive conditions and

ii) studying development of a heart pathology in said mouse, wherein said heart pathology is selected from the group consisting of heart failure, congestive heart failure, dilated cardiomyopathy, hypertensive cardiomyopathy, hypertrophic cardiomyopathy, and heart infarct.

20. (previously presented) Cells obtained from the transgenic mouse according to claim 1.

Claims 21-22 (canceled)

23. (currently amended) A method of selecting a compound that is pharmacologically active in the prevention of heart failure, said method comprising:

i) administering compounds to the cells according to claim 20,

ii) inducing a hypertensive condition in said cells, and

iii) selecting a compound that is pharmacologically active in the prevention of heart failure.

24. (previously presented) A method of producing a transgenic mouse comprising a disruption in its endogenous melusin gene, wherein said mouse lacks expression of endogenous melusin, and wherein said mouse after being subjected to a hypertensive condition, develops at least a phenotype selected from the group consisting of impaired heart hypertrophy, heart dilation, and heart failure, said method comprising:

(a) disrupting by homologous recombination the gene encoding melusin in a mouse embryonic stem (ES) cell,

(b) injecting said ES cell into a mouse blastocyst,

(c) implanting said blastocyst into the uterus of a foster mother mouse to generate a chimeric embryo,

(d) obtaining a chimeric mouse which has germ line cells comprising a disrupted gene encoding melusin from said chimeric embryo,

(e) breeding said chimeric mouse with a different mouse strain, and

(f) selecting a male transgenic mouse comprising disruption of the gene encoding melusin.

25. (previously presented) The method according to claim 24, further comprising breeding said male transgenic mouse with a female transgenic mouse comprising a heterozygous or homozygous disruption in its endogenous melusin gene, and selecting a homozygous female mouse comprising disrupted genes encoding melusin.

Claims 26-42 (canceled)

43. (previously presented) A method of selecting a compound that is pharmacologically active in the treatment of heart failure, said method comprising:

i) inducing a hypertensive condition in the transgenic mouse according to claim 1,

ii) administering compounds to said mouse, and

iii) selecting a compound that is pharmacologically active in the treatment of heart failure.

44. (previously presented) A method of selecting a compound that is pharmacologically active in the treatment of heart failure, said method comprising:

i) inducing a hypertensive condition in the cells according to claim 20,

ii) administering compounds to the said cells, and

iii) selecting a compound that is pharmacologically active in the treatment of heart failure.